

Work Order ID 133547

Wednesday, June 10, 2015 8:56:23 AM

133547

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Item ID: D6101-007 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: Saddle Billet
Start Date: 6/10/2015 Start Qty: 30.00 ***30*** Cust Item ID:
Required Date: 6/10/2015 Req'd Qty: 30.00 ***30*** Customer:
Reference:

Approvals: Process Plan: MLJ Date: JUN 10 2015 Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr	Revision Nbr
D6101	Rev B

100	PURCHASING	0.00							
100									

Purchasing Memo 0.00 CY JUN 12 2015 30
Purchasing Issue P/O: 28806
a) Description: Alluminum billet
b) 7.750" x 8.250" x 2.50" thick
c) Tolerance on all dimensions are +0.030"/-0.000"
d) Grain direction along 7.750" length
e) Material: 7075-T7351 (QQ-A-250/12)
f) Material certification required

110	Receive & Inspect for Damage & Mat'l Certs	0.00							
110									

Packaging Memo 0.00 30x SP1506-29
Packaging Ensure material certification is attached

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Required Date: 6/10/2015 Req'd Qty: 30.00 *30* Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start *NR1*
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
120 *120* QC Quality Control	QC6- Inspect dimensions to drawing Memo Ensure Material certification comply to Dwg D6101	0.00 0.00				30	0		DAS 14 9-89 15/06/30
130 *130* Packaging Packaging	Identify as per dwg & Stock Location: <u>MAT 41</u> Memo LOCATION: MAT044	0.00 0.00				30	0		DAS 14 9-89 15/06/30
140 *140* QC Quality Control	QC21- Final Inspection - Work Order Release Memo	0.00 0.00				ML5			JUN 30 2015 ML5 JUN 30 2015

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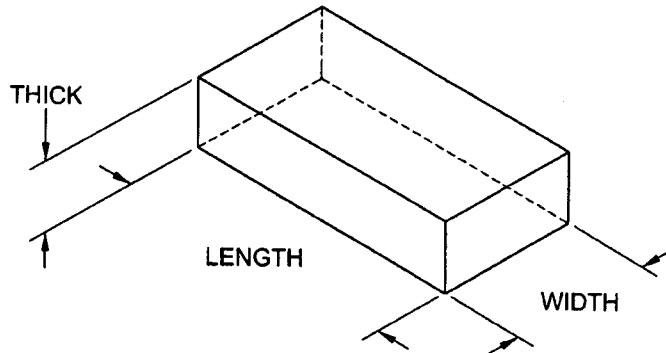
133547

D6101-007

Required Qty: 30.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D6101-007P		Purchased	No			110	Each	0.0000	1	30			
D6101-007P									**	30x SP15-06-2			
7075-T7351 8.25X7.75X2.5													

SPECIFICATION CONTROL DRAWING



SHOP COPY
 RETURN TO
 ENGINEERING
 UNLESS OTHERWISE
 SUBJECT TO AMENDMENT
 WITHOUT NOTICE
 WORK ORDER
 NO. 135549
 1506-10

PURCHASE MATERIAL ACCORDING TO THE FOLLOWING TABLE. SPECIFY ALLOY, LENGTH x WIDTH x THICK (+0.030/-0.000), AND GRAIN DIRECTION AS SHOWN.

TOLERANCES ON ALL DIMENSIONS ARE +0.030/-0.000.

ALL DIMENSIONS ARE IN INCHES.

B ACCEPTABLE SPECIFICATIONS FOR 7075-T7351 ALUMINUM ARE AMS-QQ-A-250/12, QQ-A-250/12, OR ASTM B209

Part No.	Alloy	Length	Width	Thick	Grain Direction
D6101-001	7075-T7351 (QQ-A-250/12)	6.000	6.250	2.000	Along 6.000 Length
D6101-003	7075-T7351 (QQ-A-250/12)	7.875	6.250	2.000	Along 7.875 Length
D6101-005	7075-T7351 (QQ-A-250/12)	5.000	8.250	2.500	Along 5.000 Length
D6101-007	7075-T7351 (QQ-A-250/12)	7.750	8.250	2.500	Along 7.750 Length
D6101-009	7075-T7351 (QQ-A-250/12)	8.700	8.250	2.500	Along 8.700 Length
D6101-011	7075-T7351 (QQ-A-250/12)	9.700	8.250	2.500	Along 9.700 Length
D6101-013	7075-T7351 (QQ-A-250/12)	10.100	8.250	2.500	Along 10.10 Length
D6101-015	7075-T7351 (QQ-A-250/12)	9.450	6.250	2.500	Along 9.450 Length
D6101-017	7075-T7351 (QQ-A-250/12)	6.350	6.250	2.250	Along 6.350 Length

RELEASED
09/07/15/W

B	ADDED D6101-015/-017, ADD ASTM B209	RF	09.04.23
A	NEW ISSUE	CP	01.03.30
REV..	DESCRIPTION	BY	DATE
DESIGN	CP	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	RF		
CHECKED	<i>[Signature]</i>	DRAWING NO.	REV. B
MFG. APPR.	<i>[Signature]</i>	D6101	SHEET 1 OF 1
APPROVED	<i>[Signature]</i>	TITLE	SCALE
DE APPR.	<i>[Signature]</i>	SADDLE BILLET, 7075	NTS
DATE	09.04.23	COPYRIGHT © 2001 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PURCHASE ORDER

Purchase Order ID **PO28806**

Purchase Order Date 6/12/2015

PO Print Date 6/12/2015

Page Number 1 of 3

Order From :

METAUX CASTLE
P.O. BOX 4090 STN A
TORONTO, ONTARIO M5W OE9
CANADA

VU-MET002

Ship To : DART AEROSPACE LTD

1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

FILED

Contact Name

Vendor Phone

Buyer

Chantal Lavoie

Customer POID

Customer Tax #

10127-2607

Terms

Net 30

Currency

USD

FOB

Destination-Collect

Ship To Contact

Ship To Phone

Ship Via: Yours ppd

Ship Acct:

Line Nbr	Reference Vendor Part Number	Description/ Mfg ID	Req Date/ Taxable	CD	Req Qty/ Unit of Measure	PO Unit Price	Extended Price
	Line Comments		Promise Date				
	Delivery Comments						
1	D6101-007P	7075-T7351 8.25X7.75X2.5	6/30/2015		30.00	\$61.10	\$1,833.00
			Yes		Each		
			6/30/2015				
	AS PER DWG D6101 REV. B B133547 MATERIAL: 7075-T7351 (QQ-A-250/12) SIZE: 7.750" X 8.250" X 2.50" THICK GRAIN DIRECTION ALONG: 7.750" LENGTH TOLERANCE AS PER QUOTE +.030"/-.000"						
Line Total:							\$1,833.00
2	D6101-015P	ALUM BILLET	6/30/2015		20.00	\$69.60	\$1,392.00
			Yes		Each		
			6/30/2015				
	AS PER DWG D6101 REV. B B133454 size: 9.450" X 6.250" X 2.50" thick Tolerance on all dimensions are +0.030"/-0.000" Grain direction along 9.450" length Material: 7075-T7351 (QQ-A-250/12)						

SK-06-29

Note:

6/12/2015

**Castle Metals®**

A. M. Castle & Co.

PACKING SLIP/
CERTIFICATE OF CONFORMANCE

Page 1 of 2

Shipment No:2648475

Ship From:		Sold To:		Ship To:		Deliver To:	
A. M. Castle & Co. MONTREAL - CASTLE METALS 835-SELKIRK AVENUE POINTE CLAIRE, QUEBEC H9R 3S2		DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CA		DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CAN		DART AEROSPACE LTD 1270 ABERDEEN HAWKESBURY, ON K6A 1K7 CA	
Date Shipped	F.O.B.	Freight Terms		Carrier		BOL No	
26-JUN-2015	ORIGIN	Prepaid		MANITOULIN		2648475-2	

Shipment Details	Final Destination Branch - MON
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Order No 3924795	Line No 1	Item No 752241 MO	Description 2.5000.PL.7075.T7351.ALUMINUM.USI.48.5000.144.5000 CUT 2SIDED TO 8.25 IN (+ .0310/- .0000 IN (GRAIN TO RUN ALONG 7.75")) X 7.75 IN (+ .0310/- .0000 IN (GRAIN TO RUN ALONG 7.75")) - ALUMINUM PLATE SAW SPECIFICATIONS: AMS-QQ-A-250/12				
Purchase Order No 28806		Part Number YOUR ITEM NUMBER: D6101-007		Ordered Qty 30.00 PCS		Invoice Qty 30.00 PCS	
Details		PIECES MUST BE IDENTIFIED WITH HT # ONE DEL'Y # PER ORDER # SHIP TO CASTLE, MONTREAL (POINTE-CLAIRE) CUSTOMS BROKER: GEORGE H. YOUNG END USER: DART AEROSPACE END USE: COMMERCIAL AIRCRAFT PARTS 87 15-06-29					
Delivery No.	Mill	Heat Number	Mech Id	PCS	Width (IN)	Length (IN)	Shipped Qty(LBS)
120094673	KAISER ALUMINUM			20			330.6337
120094673	KAISER ALUMINUM			10			165.3169

These commodities, technology or software were exported from the United States in accordance with the Export Administration Regulations. Diversion contrary to US law prohibited.

Date Printed: 26-JUN-2015 01:20:02 PM



Castle Metals®

A. M. Castle & Co.

**PACKING SLIP/
CERTIFICATE OF CONFORMANCE**

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These commodities/technologies are subject to US Export Administration & US State Dept. Regulations and, if intended for export, were/are exported thereunder. Diversion contrary to US Law is Prohibited.

We hereby certify the material covered by this certification conforms in accordance with the above specifications and has been found to meet the applicable requirements for the material, including any specifications forming a part of the description. Test reports are on file subject to examination. All claims for defective material are waived unless made in writing to A.M. Castle & Co. within 60 days of the shipment. Material cut to the correct size, or material cut by the customer cannot be returned for credit.

Reviewed by Authorized Castle Metals Representative:



Date:

Name:

26 JUN 2015

SHIP TO:

A M CASTLE & CO
3050 SOUTH HYDRAULIC
WICHITA, KS 67216

KAISER ALUMINUM

Trentwood Works - Spokane, WA 99215
Phone: (800) 367-2586

CERTIFIED TEST REPORT

SOLD TO:

AM CASTLE & CO- SOLD TO
1420 KENSINGTON RD
SUITE 220
OAK BROOK, IL 60523

Serial Number
4375819

CUSTOMER PO NUMBER: 324790		WORK PACKAGE:	CUSTOMER PART NUMBER: 752241		SHIP RUN/LOAD: 103206/20	GOV'T CONTRACT NUMBER:	
KAISER ORDER NO: 1189242	LINE ITEM: 1	SHIP DATE: 15-MAY-2015	ALLOY: 7075	CLAD: BARE	TEMPER: T7351	PRODUCT DESCRIPTION: KaiserSelect Plate	
WEIGHT SHIPPED: 3624 LB	QUANTITY: 2 PCS EST.	TRUCK B/L #: 2053934	GAUGE: 2.5000 IN (63.5000 MM)		DIAMETER/WIDTH: 48.500 IN (1231.9 MM)	LENGTH: 144.500 IN (3670.3 MM)	

MHU 1890571: LOT 131085B3: 2 pieces;

Certified Specifications **DAS**
14
9-89

AMS 4078/RevJ
ASTM B 209/Rev14
BSS 7055/RevB
DPS 4.713/RevAK
MMS 159/RevT

AMS-QQ-A-250/12/RevA
ASTM B 594/Rev13
CMMP 025/RevU
GAMPS 9101/RevB/AmdSCN1
PS 21211/RevM

AMS-STD-2154/RevA
BAC 5439/RevJ
CSTI 006/RevE
GSS16100/RevG/Amd1

Test Code: 4297

Test Results

Lot: 131085B3 Cast 786

Drop 14

Ingot 3

Melted in USA

(ASTM E8/B557)
(EN 2002-1)

Tensile:	Temper T7351	Dir / # Tests LT / 2 (Min:Max)	Ultimate KSI (MPA) 70.3 : 70.7 (485 : 487)	Yield KSI (MPA) 59.9 : 60.0 (413 : 414)	Elongation % 11.3 : 12.3
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(ASTM E1004)
(EN 2004-1)
Conductivity %IACS : 40.7 Min 40.7 Max
(MS/M) : 23.6 Min 23.6 Max

(ASTM E1251)

Chemistry:	SI	FE	CU	MN	MG	CR	ZN	TI	V	ZR	OTHER
Actual(wt%)	0.08	0.18	1.4	0.06	2.4	0.19	5.9	0.03	0.01	0.01	TOT 0.05

KAISER ALUMINUM

Trentwood Works - Spokane, WA 99215
Phone: (800) 367-2586

CERTIFIED TEST REPORT

Serial Number
4375819

ALLOY LIMITS

	SI	FE	CU	MN	MG	CR	ZN	TI	V	ZR	OTHER	MAX
7075												
MIN(wt%)	0.00	0.00	1.2	0.00	2.1	0.18	5.1	0.00	0.00	0.00	EACH	0.06
MAX(wt%)	0.40	0.50	2.0	0.30	2.9	0.28	6.1	0.20	0.05	0.05	TOT	0.15

Aluminum Remainder

ORDER COMMENTS

AMC-CA-154138 R 6

AMS 4078, AMS QQ-A-250/12, AMS STD-2154, A
STM B209, ASTM B594, BS

S 7055, CMMP 025, CSTI 006, DPS 4.713, GAMP

S 9101, MMS 159, PS 212

11

TEST NOTES

Metal represented by this test report was 100% immersion
ultrasonically tested from one side with 3mm dead zones top
and bottom and meets the Class A and Class B requirements of
all specifications referenced on this test report. No
surface marking of sonic indications is performed.

CERTIFICATION

Kaiser Aluminum Fabricated Products, LLC (Kaiser), is ISO 9001:2008/AS9100C certified and hereby certifies that all material shipped under this order:
* has been inspected, tested, and found to be in conformance with the requirements of the specifications indicated herein. For material thicknesses outside specification limits, mechanical properties are as shown herein and chemical composition meets specification requirements.
* was melted in the United States of America or a qualifying country per DFARS 225.872-1(a), was manufactured in the United States of America, and meets the requirements of DFARS 252.225 for domestic content.
* has been thermally processed in compliance with AMS 2772, where applicable.
* is mercury free, within the limits of detection of ASTM E1251 (< 1 ppm).
* is in compliance with RoHS 2, European Union Directive 2011/65/EU.
* is in compliance with and regularly monitors any updates to the European Chemical Agency, ECHA, REACH regulations, (EC) n°1907/2006.
* is free of Conflict Minerals, as defined in Section 15.2 of the Dodd-Frank Act.
Any warranty is limited to that shown on Kaiser Aluminum's standard general terms and conditions of sale. Test reports are on file, subject to examination. Test reports shall not be reproduced except in full, without the written approval of the Kaiser Aluminum laboratory. The recording of false, fictitious or fraudulent statements or entries on the certificate may be punished as a felony under federal law.

James Hemenway

JAMES HEMENWAY, LABORATORIES SUPERVISOR

MATERIAL RECEIPT INSPECTION FORM

MATERIAL: DC101-007
DATE: 15/06/30

PO / BATCH NO.: 28806/133547

MATERIAL CERT REC'D: yes
QUANTITY RECEIVED: 30
QUANTITY INSPECTED: 30
QUANTITY REJECTED: _____

THICKNESS ORDERED: 7.750x8.250x2.50
THICKNESS RECEIVED: 7.750x8.250x2.50
SHEET SIZE ORDERED: _____
SHEET SIZE RECEIVED: _____

DESCRIPTION	NCR (Check Y/N)		COMMENTS
SURFACE DAMAGE	Y	(N)	
CORRECT FINISH	(Y)	N	
CORROSION	Y	(N)	
CORRECT GRAIN DIRECTION	(Y)	N	
CORRECT MATERIAL	(Y)	N	
CORRECT THICKNESS	(Y)	N	
PHOTO REQUIRED	Y	(N)	
CORRECT MATERIAL	(Y)	N	
CORRECT REF # TO LINK CERT	(Y)	N	
CORRECT MATERIAL IDENTIFICATION	(Y)	N	
CORRECT M# ON THE MATERIAL	(Y)	N	
DOES THIS MATERIAL REQUIRE ENGINEERING SIGN OFF	Y	(N)	
DOES THIS REQUIRE AN EXTRUSION REPORT	Y	(N)	

CUT SAMPLE PIECE OF MATERIAL AND PERFORM A HARDNESS CHECK. RECORD RESULTS BELOW					
TYPE OF MATERIAL	HRC	HRB	DUR A	DUR D	
SIZE OF TEST SAMPLE					
HARDNESS / DUROMETER READING					

testers located in the Quality Office

QC-18 INSPECTION		ENGINEERING SIGNOFF (if required)	
INSPECTED BY: <u>14</u>	SIGNED OFF BY: _____		
DATE: <u>15/06/30</u>	DATE: _____		

Attach this inspection sheet with the corresponding material cert and remit to be scanned and received in

MATERIAL RECEIPT INSPECTION FORM

INSTRUCTIONS FOR INSPECTING BAR, TUBING, ROUND, & SHEET STOCK

- 1- VERIFY STOCK TO DART PURCHASE ORDER
- 2- MEASURE ALL DIMENSIONS FOR EACH PURCHASED STOCK
 - a. WIDTH, THICKNESS, DIAMETER, WALL THICKNESS & LENGTH
- 3- VERIFY CONDITION OF MATERIAL i.e. DAMAGED, CORRODED, etc.
- 4- VERIFY THAT SUPPLIER HAS A NUMBER (HEAT #) ON ITS RECEIVING REPORT TO LINK TO MATERIAL CERTS
- 5- VERIFY MATERIAL CERTS ARE CORRECT TO THE DART PO INSTRUCTIONS
- 6- REMOVE / CUT A PIECE OF MATERIAL FOR SAMPLE HARDNESS TESTING

INSTRUCTIONS FOR INSPECTING SKIDTUBE & STEP EXTRUSION

- 1- VERIFY TO DART SUPPLIED DRAWING
- 2- SAMPLE INSPECT MATERIAL IN BUNDLE TO ENSURE MATERIAL CAN BE RECEIVED INTO DART
- 3- USING PORTABLE HARDNESS TESTER VERIFY HARDNESS OF THE MATERIAL TO THE DRAWING
- 4- VERIFY THAT MATERIAL CERTS MATCH TO WHATS CALLED UP ON THE DART DRAWING

AFTER MATERIAL PASSES INSPECTION

- 5- HAVE DART EMPLOYEES START STOCKING MATERIAL BUT REQUEST MIN **20pcs** FOR FULL INSPECTION
- 6- INSPECT ALL DIMS AS PER DRAWING REQUIREMENTS

INSTRUCTIONS FOR INSPECTING CROSS TUBE MATERIAL

- 1- VERIFY MATERIAL CERTS MATCH THE REQUIREMENTS ON THE DART DRAWINGS
- 2- INSPECT MIN. HALF THE BATCH OF EXTRUSION RECEIVED INTO DART
- 3- INSPECT MATERIAL AS PER THE EXTRUSION REPORT
 - a. WALL THICKNESS USING ULTRA-SONIC IN 4 LOCATIONS
 - b. OUTSIDE DIAMETER HIGHEST/LOWEST BOTH ENDS
 - c. INSIDE DIAMETER HIGHEST/LOWEST BOTH ENDS
 - d. STRAIGHTNESS @ CENTER OVER 12" SPAN
 - e. WALL THICKNESS USING TUBE MICROMETER HIGHEST/LOWEST BOTH ENDS
- 4- IDENTIFY EACH TUBE IN SEQUENCE OF INSPECTING (TUBE 1, TUBE2.....) AND W/O# AND PO#
- 5- RECORD ALL FINDINGS ON EXTRUSION REPORT

IF ANY QUESTIONS PLEASE SEE QC COORDINATOR BEFORE GOING FURTHER